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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,930	10/26/2001	Glen Fryxell	E-12783	2982

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Douglas E. McKinley, Jr.  
McKinley Law Office  
P.O. Box 202  
Richland, WA 99352

EXAMINER

METZMAIER, DANIEL S

ART UNIT

PAPER NUMBER

1712

DATE MAILED: 09/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

A-2

<b>Office Action Summary</b>	Application No. 10/045,930	Applicant(s) FRYXELL ET AL.	
	Examiner Daniel S. Metzmaier	Art Unit 1712	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 June 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                     | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                            | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>062002</u> | 6) <input type="checkbox"/> Other:  |

### **DETAILED ACTION**

Claims 1-16 are pending.

#### ***Oath/Declaration***

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: the record indicates the declaration is three pages and that page two of the three pages is missing. Applicants must provide a full copy of the original declaration or a newly executed declaration.

#### ***Specification***

2. The disclosure is objected to because of the following informalities: page 4 of the instant specification at lines 8-10 refers to a copending application filed concurrently directed to the formation of monolayers and functionalized aerogels. Applicants should correct said citation with the correct serial number and/or patent number.

Appropriate correction is required.

#### ***Claim interpretation***

3. Claims are given their broadest reasonable interpretation during prosecution. Since claims 4-6 define a preferred range, said claims read on the breadth of claim 1. Claims 7 and 11 read on compositions having a pore size of about 150 angstroms since the pore size defines a distribution.

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 1 and 8, the terms "high density of hydroxyl groups is a relative term, which has not been specifically defined in the specification.

In claims 4-6, the claims contain idiomatic English, e.g., "said hydroxyl groups are greater than preferably greater than". It is unclear what is the scope of said claims. The preferred range is not deemed to limit the scope of the claims and the claims appear incomplete.

In claim 10, "said ceramic oxide" lacks antecedent basis in claim 8.

Claims 14-16 are indefinite regarding how applicants define the pore size distribution. It is unclear how said pore size was measured and what the range of "less than 50% of the mean pore diameter" refers. Several interpretations may exist for the distribution including as examples: "all the particles have a pore size that is less than 50% of the of the mean pore diameter" or "less than 50% of the particles have the mean pore diameter".

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-7 and 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Cogliati, US 5,391,364. Cogliati (abstract; column 2, lines 12-22; and claims) discloses aerogels having a pore size distribution within the range of 50 to 1000

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angstroms (equates to 5 to 100 nm). Said aerogels have a pore distribution of not greater than 50 angstroms. Cogliati further sets forth that at least 90% of the pores have a width never exceeding 50 angstroms or are substantially the same pore diameter.

Since the pore size is defined in the reference as a narrow distribution and the pore size of 150 angstroms is specifically mentioned (column 2, lines 54-58), the incorporation of the pore sizes and bottlenecks of claims 7 and 11 would have been expected in the Cogliati compositions.

7. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by The Colloid Chemistry of Silica, edited by Bergna, (06-1994), page 379. Bergna discloses that aerogels and xerogels have -OH surface coverage of about 4 per nm<sup>2</sup>.

#### ***Allowable Subject Matter***

8. Claims 8-10 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (703) 308-0451. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on (703) 308-2340. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



**Daniel S. Metzmaier**  
**Primary Examiner**  
**Art Unit 1712**

DSM